

REMARKS

The following remarks are submitted in response to the Office Action mailed December 10, 2004. Claims 1-13, 16-18, 20, 23, and 24 are pending in the current application. Claims 1-13, and 16-18 have been allowed. Claims 20, 23, and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Muro et al. (U.S. Patent No. 6,132,133). Claim 24 is objected to because it does not further limit parent claim 20. Claim 33 is objected to because it recites a method of compacting in the preamble, but does not recite any method steps.

Response to Claim Objections

Claim 24 is objected to because it does not further limit parent claim 20. Claim 33 is objected to because it recites a method of compacting in the preamble, but does not recite any method steps.

Claim 24 is amended to clarify the claim limitation in response to the Examiner's objection and not to overcome any prior art. Applicant believes amended claim 24 is now in condition for allowance. Claim 33 has been canceled and therefore any objection to this claim is moot.

Response to § 103 Rejection: Muro

Claims 20, 23, and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Muro et al. (U.S. Patent No. 6,132,133.)

Referring to the instant invention, independent claim 20 is directed to a compactor having at least two longitudinally spaced modular compaction units connected relative to each other. At least one of the modular compaction units is adjustable to permit steering of the compactor. Each modular compaction units comprises a compaction belt and support means for the belt to define a planar lower run of the belt forming a compaction surface. Additionally, in the lower run of the belt of each modular compaction unit, the belt extends between two relatively small drums or rollers with a vertical roller positioned vertically above the smaller drums or rollers supporting an upper run of the belt.

Muro discloses a crawler type vibratory compacting machine having a triangular crawler unit and a steerable vehicle body (10) having an operators seat (11). The triangular crawler unit includes one wide track (35) or a plurality of juxtaposed tracks (35a, 35b, 35c) wound around wheels (32, 34) arranged along the length of and above a track frame (31), and a vibrator (40) housed in the crawler unit. The Examiner incorrectly states that the “compactor is powered and adjustable to permit steering.” Muro discloses a vibratory compacting machine attached to a vehicle body, namely, a tractor. The tractor is powered and steerable, but the triangular crawler unit is not. The vibratory compactor in Muro is not in any way adjustable to permit steering.

Independent claim 20 and the dependent claims thereof are patentable under § 103 over Muro because this reference fails to disclose or suggest, *inter alia*, at least one of a modular compaction unit that is adjustable to permit steering of the compactor. Muro does not teach a compaction unit that is adjustable to permit steering or powered. Rather, the teaching of Muro is directed toward an unsteerable vibratory crawler unit that is pushed or pulled by a tractor.

Furthermore, in determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 U.S.P.Q. 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 U.S.P.Q. 698 (Fed. Cir. 1983). In the *Nortron* case, claims were directed to a vibratory testing machine having a holding structure, a base structure and a supporting means which form “a single integral and gaplessly continuous piece.” *Nortron* argued the invention is just making integral what had been made in four bolted pieces, improperly limiting the focus to a structural difference from the prior art and failing to consider the invention as a whole. The prior art perceived a need for mechanisms to dampen resonance, whereas the inventor eliminated the need for dampening via the one-piece gapless support structure. “Because that insight was contrary to the understandings and expectations of the art, the structure effectuating it would not have been obvious to those skilled in the art.” 713 F.2d at 785, 218 U.S.P.Q. at 700 (citations omitted).

The present invention is directed to, *inter alia*, at least one of a modular compaction units that is adjustable to permit steering of the compactor. The prior art, including Muro, requires a tractor to push or pull the compacting unit. The present invention is contrary to the understandings and expectations in the art, and contrary to the Examiner's statements that the configuration of the present invention is "simply a duplication of parts" of the Muro invention. Duplication of the vibrating crawler units of the Muro invention would yield two vibrating crawler units that could not move and could not be steered.

Furthermore, an analysis under § 103 requires that the Examiner explain why, after assessing the level of those skilled in the art, the skilled artisan would have found the claimed subject matter, as a whole, to have been obvious. To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references, and there must be a reasonable expectation of success. MPEP § 706.02(j). The suggestion or motivation to make the claimed combination and a reasonable expectation of success must both be found in the prior art. *Id.* The Examiner cannot rely on hindsight as the basis for combining two references. If the references do not expressly or impliedly suggest the combination, "the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Id.* (Citing *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Inter. 1985).) There is no motivation in the Muro reference to duplicate parts to arrive at the configuration of the claimed invention. The structure of the present invention was not obvious to Muro and is not obvious (without impermissible hindsight analysis) to those skilled in the art. Independent claim 20 and the dependent claims thereof are therefore patentable under 35 U.S.C. § 103 over Muro.

In addition to the claimed invention being considered as a whole, the prior art must also be considered in its entirety, including disclosure that teaches away from the claims. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates v. Garlock, Inc.* 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983 cert. denied, 469 U.S. 951 (1984)). The prior art

reference teaches away from the claimed invention if the reference, modified as suggested by the Examiner, would render the prior art unsatisfactory for its intended purpose.

Further, according to MPEP § 2143.02, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, or if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is not suggestion or modification to make the proposed modification and the references are not sufficient to render the claims *prima facie* obvious.

Referring to the claimed invention, and as will be appreciated in the background section of the specification, the teachings of the present invention teach away from vibratory compaction of an asphalt mat. For example, in the specification of the present application, use of a vibratory roller for compaction is differentiated from the teachings of the present invention by stating that when “using a vibratory roller compactor ... the binder in the asphalt mix reacts during compaction more as an elastic solid than as a viscous fluid and the compaction attempts to for the aggregate through the binder into a more compact arrangement” (Specification, Page 4, lines 5-10).

As discussed in the final paragraph of page 4 and through the specification thereafter, the present invention recognizes and teaches that a visco-elastic fluid, such as the binder in hot mix asphalt, has a response to a load that is not only temperature dependent, but also time dependent, and does not require vibration. That is, the teaching of the present application includes that the application of a load of short duration will result in a more elastic-asphalt response than a viscous-type response, as the binder does not have time to flow. Importantly, the teaching of the present application does not require a vibratory unit in the modular compaction unit.

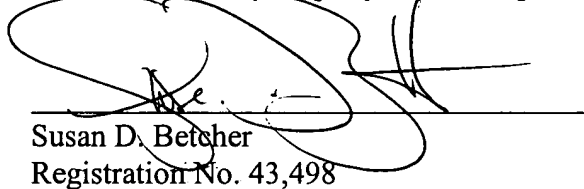
This concept is not taught or suggested by patent references that teach conventional vibratory compaction methods and apparatuses such as Muro. Furthermore, removing the vibratory capabilities of Muro would render Muro unsatisfactory for its intended purpose and would change the principle of operation of Muro. Muro teaches a vibrator 40 including horizontal and vertical vibrating units 40A and 40B. Muro teaches that the vertical and

horizontal vibrators allow not only the surface layer, but also a deep layer of the ground to be compacted. (See Column 9, lines 20-25.) The Muro device would fail to compact as taught and claimed if the vibrators were removed. Independent claim 20 and the dependent claims thereof are therefore patentable under 35 U.S.C. § 103 over Muro.

Applicant respectfully submits that all claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited. If questions remain, please contact the undersigned at the telephone number listed below. The Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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